

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**RULE 2012 - Protocol for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO<sub>x</sub>) Emissions**

**Appendix A, Chapter 6 – All Sources and Units – Determining Source Category Status**

*(Amended 1-7-05)*

**RULE 2012 PROTOCOL -  
CHAPTER 6**

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**ALL SOURCES AND UNITS - DETERMINING  
SOURCE CATEGORY STATUS**



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All equipment are categorized by equipment rating, mass emissions (i.e., potential to emit), and annual operating capacity (actual heat input) as shown in tables 1-A, 1-B, and 1-C. This chapter prescribes the methodology for assessing equipment rating, potential to emit, and actual heat input

The methodology for estimating mass emissions is described in Chapter 2 (Major Sources), Chapter 3 (Large Sources), and Chapter 4 (Process Units).

#### **A. Equipment Rating**

For equipment to be categorized as major source, large source, or NO<sub>x</sub> process unit, the Facility Permit holder shall demonstrate that the affected equipment is within the range of the determined category. The following procedures are to be used in demonstrating the category status:

1. To determine the heat input rating for boilers, furnaces, ovens, dryers, heaters, incinerators, test cells, and all liquid and gaseous fueled equipment:
  - a. Use the identification/rating plate permanently affixed to the equipment on which the maximum heat input rating in Btu/hr is displayed along with the serial and model numbers. If not available, then -
  - b. Determine the maximum heat input rating for the burner(s) from specifications/data issued by the manufacturer, or by the burner ID plate on the equipment. If not available, then -
  - c. Calculate the maximum heat input rating by multiplying the maximum hourly, fuel usage and higher heating value of the fuel(s). If multiple fuels are burned then the fuel providing the highest heat input rating must be used. This approach must be used if the equipment is capable of operating above the designed maximum heat input rating, irrespective of Chapter 6, Subdivision A, Paragraphs 1, Subparagraphs a and b.
2. To determine the brake horsepower for internal combustion engines:
  - a. Use the identification/rating plate permanently affixed to the internal combustion engine on which the rated brake horsepower is specified by the manufacturer. If not available, then -

- b. Calculate the brake horsepower rating of an internal combustion engine by multiplying the maximum fuel usage per minute, heating value of fuel, equipment efficiency provided by the manufacturer and the conversion factor (2545 Btu/bhp).
  3. To determine process weight rating of kilns, calciners, and other process equipment use the maximum total weight of all materials introduced into any specific process, including solid fuels.
  4. To determine megawatt or kilowatt ratings of turbines:
    - a. powering an electric generator
      - i. Use the identification/rating plate permanently affixed to the turbine generator on which rating is displayed. If not available, then -
      - ii. Use the megawatt rating for turbines as determined by the manufacturer's specification sheet. If not available, then
      - iii. Calculate the turbine's power rating by dividing the fuel capacity (Btu/hr) by the manufacturer's heat rate (Btu/kw-hr).
    - b. not powering an electric generator
      - i. use the identification/rating plate permanently affixed to the turbine on which the shaft brake horsepower (bhp) is displayed. If not available, then -
      - ii. use the shaft bhp as determined by the manufacturer's specification sheet, then -
      - iii. Calculate the turbine's power rating (kw) by multiplying the shaft bhp by 0.67.
  5. To determine annual heat input for source-category determination:

$$H = \sum_{j=1}^r \sum_{k=1}^{12} D_{jk} \times V_{jk} \times 10^{-3} \quad (\text{Eq.40})$$

where:

H = Annual heat input (billion Btu/yr).

$D_{jk}$  = The monthly fuel usage (mmscf/mo, mmgal/mo, mmlb/mo, mmbbl/mo)

$V_{jk}$	=	The higher heating value for each type of fuel:
$j$	=	Each type of fuel
$k$	=	Each monthly period
$r$	=	The number of different types of fuel

## **B. Potential to Emit**

The potential to emit means the amount of pollutants calculated (1) using a calendar monthly average and (2) on a pound-per-day basis from permit conditions which directly limit the emissions or, when no such conditions are imposed from:

- (1) the maximum rated capacity; and
- (2) the maximum daily hours of operation; and
- (3) the physical characteristics of the materials processed.

## **C. Actual Heat Input**

The actual heat input is the measured fuel usage multiplied by the heat content of the fuel.

## **D. Loss of Categorization Status**

On and after January 1, 1995 for Cycle 1 facilities and July 1, 1995 for Cycle 2 facilities, any Facility Permit holder who has elected to change the category of any equipment from a major to a large source or a large source to a process unit based on the level of fuel usage or hours of operation, shall monitor and record the annual fuel usage or hours of operation for that equipment.

- (1) If the fuel usage or hours of operation exceed the levels specified for that equipment at the end of any RECLAIM compliance year, the Facility Permit holder of a large source shall:
  - (i) Within 1 month from the end of the compliance year, submit a Monitoring, Reporting and Recordkeeping (MRR) plan specifying the use of CEMS and any preliminary data, and
  - (ii) Within one year from the end of the compliance year, comply with the major source requirements specified in Rule 2012.
2. If the fuel usage or hours of operation exceed the levels specified for that equipment at the end of any RECLAIM compliance year, the Facility Permit holder of a process unit shall:

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- (i) Within 1 month from the end of the compliance year, submit a Monitoring, Reporting, and Recordkeeping (MRR) plan that specifies the concentration limit or elects for an emission rate, and
  - (ii) Within 3 months from the end of the compliance year, comply with the large source requirements specified in Rule 2012.